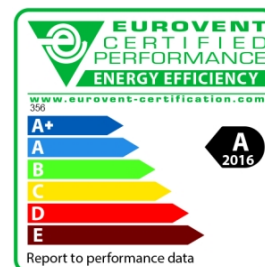
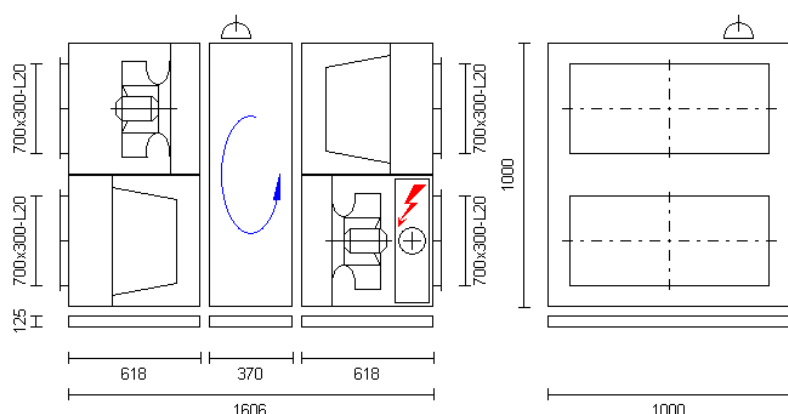


Project: BonMerite

Air handling unit model:

VERSO-R-2500-H-E-R1-F7/M5-C5.1-L/A



TECHNICAL SPECIFICATION

Typology	NRVU
	BVU
Type of HRS	Rotary heat exchanger

Air handling unit data

RLT class			
		Supply	Exhaust
Nominal flow rate	[m³/h]	2232	2153
	[m³/s]	0.62	0.60
Nominal external pressure	[Pa]	200	200
Face velocity at design flow rate	[m/s]	1.55	
SFPv	[kW/m³/s]	1.31	
The thermal efficiency of HRS	[%]	77	

Calculation data

		Winter	Summer
Design outdoor temperature	[°C]	-21	27
Outdoor relative humidity	[%]	90	50
Indoor temperature	[°C]	22	25
Indoor relative humidity	[%]	30	55

Atmosphere pressure	[Pa]	101325
Air density	[kg/m³]	1.2

Electrical data

Number of electrical input	1
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AHU

Electrical connection	~400V / 50Hz / 3-phase / 5x4mm² / 22A
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Control automatics

Type	C5.1
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COMMISSION REGULATION (EU) No 1253 (ecodesign requirements)

	Value	2018
The thermal efficiency of HRS, η_{t_nrvu} (EN308)	[%]	77 $\geq$ 73
Internal specific fan power, SFPint	[W/m³/s]	659 $\leq$ 1135
Type of drive - variable speed	Installed	Necessary
Thermal by-pass facility	Exist	Necessary
Warning - filter is clogged	Exist	Necessary
Unit conformity assessment		Complies

Int. pressure drop of ventilation components (ΔP_s , int)	[Pa]	408
Int. pressure drop of non-ventilation components (ΔP_s , add)	[Pa]	122
Effective electric power input of the fans (clean filter)	[kW]	0.81

Basic construction STANDART

Panels from two galvanized steel sheets, filled with thermal and sound insulation fire-resistant min. wool ($\lambda=0,036$ W/mK).

AHU painted C3 class, RAL 7035.

Indoor unit.

When filters get dirty, unit control panel gives notice to change the filters.

Dirty filters cause increased energy consumption, which decreases performance and energy efficiency of the unit, so it is very important to change the filters regularly.

AHU shall operate with variable speed drive.

www.komfovent.com

Verso manual version: V2-19-01

Control manual version: C5.1-16-07

Casing air leakage (Model Box, EN 1886)

-400 Pa	[dm³/(s·m²)]	0.05
+700 Pa	[dm³/(s·m²)]	0.09

Maximum external leakage rate at - 400 Pa	[%]	< 1
Maximum external leakage rate at + 400 Pa	[%]	< 1
Maximum internal leakage rate or carry over	[%]	1.22

AHU configuration

Panels thickness	[mm]	50
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Unit weight

Weight (netto)	[kg]	340
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ACOUSTIC DATA

Sound power level L _w	to the air ducts				to surrounding
	Supply air volume [dB]		Exhaust air volume [dB]		[dB]
F[Hz]	Inlet	Outlet	Inlet	Outlet	
63	57.3	64.9	58.9	64.4	61.3
125	64.1	61.7	54.9	59.4	62.1
250	64.8	71.5	61.1	67.9	65.3
500	59.5	69.4	59.5	64.7	48.7
1000	51.3	70.7	49.6	64.5	46.6
2000	45.1	67.6	48.8	63.6	42.2
4000	40.2	62.4	43.5	59.0	32.9
8000	32.2	57.9	35.7	55.4	27.3
dB(A)	60	74	59	70	58

Rotary heat exchanger
RR-AL-800-L-O-S(904x910x320)-PN-A1-T

Condensation

Designed for dry conditions

Diameter	[mm]	800
Wave height	[mm]	1.65
Density	[kg/m³]	1.2
Heat recovery class (EN13053)		H1
Efficiency bonus (E), (EU 1253)		126

		Winter		Summer	
		Supply	Exhaust	Supply	Exhaust
Temp. efficiency	[%]	75.3		75.3	
Humid. efficiency	[%]	27		0	
Pressure drop	[Pa]	141	136	141	136
Velocity	[m/s]	2.54	2.45	2.54	2.45
Standard air volume	[m³/h]	2232	2153	2232	2153

Inlet

Temperature	[°C]	-21	22	27	25
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VERSO-R-2500-H-E-R1-F7/M5-C5.1-L/A

Date: 2020-02-28

Relative humidity	[%]	90	30	50	55
Absolute humidity	[g/kg]	0.52	4.93	11.20	10.94
Enthalpy	[kJ/kg]	-19.84	34.66	55.71	52.99

Outlet

Temperature	[°C]	11.4	-11.9	25.5	26.6
Relative humidity	[%]	21	95	55	50
Absolute humidity	[g/kg]	1.71	1.29	11.20	10.94
Enthalpy	[kJ/kg]	15.77	-8.72	54.16	54.61

Energy recovery

Sensible heat	[kW]	24.3		-1.2	
Latent heat	[kW]	2.2		0	
Total heat	[kW]	26.5		-1.2	
Recovery of moisture	[g/kg]	1.2	-3.6	0	0
OACF		1.27		1.27	

SUPPLY AIR VOLUME
Air filter

Filter correction (F), (EU 1253)		0
Type	Bag filter	
Energy efficiency class		
Air velocity class (EN13053)		V1
Filter class (EN 779:2012)		F7
Filter class (EN ISO 16890)		ePM1 60%
Dimensions bxxhxl	[mm]	792x392x500
Quantity of bags		10
Quantity of filters		1
Pressure drop (clean filter)	[Pa]	60
Pressure drop	[Pa]	105
Recommended max. pressure drop (EN 137792007)	[Pa]	150
Velocity in the AHU filter section	[m/s]	1.55

Electric air heater

Type		EK - 7.5
Air volume	[m³/h]	2232
Inlet temperature	[°C]	11.4
Inlet rel. humidity	[%]	21
Outlet temperature	[°C]	21
Pressure drop	[Pa]	17
Full load I	[A]	10.9
Power	[kW]	7.1
Power supply ~400V / 50Hz / 3 phase		

Restrictions

Fan EC

Type	115392	RH31C-6ID.BD.CR
Wheel diameter	[mm]	315
Air volume	[m³/h]	2232
Built-in loss	[Pa]	20
Static pressure	[Pa]	484
Speed	[1/min]	2099
Max. speed	[1/min]	2460
K-value		95
Motor efficiency class		IE4 (Super Premium)
Motor power	[kW]	0.78
Rated current(1~230V)	[A]	3.9
Electric power to motor (clean filters)	[kW]	0.44
Total fan efficiency	[%]	65.08
Static fan efficiency	[%]	61.94

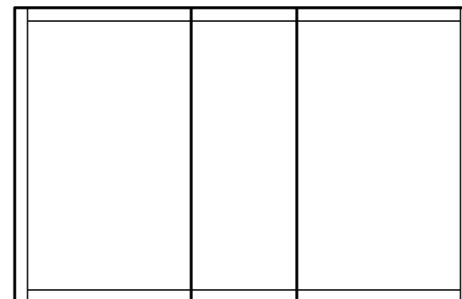
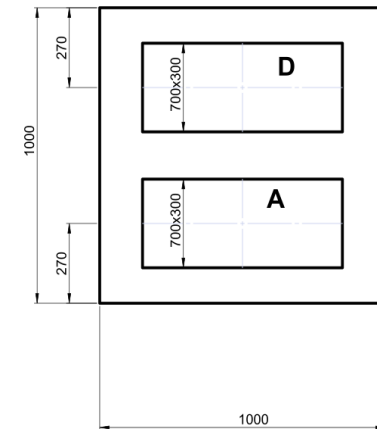
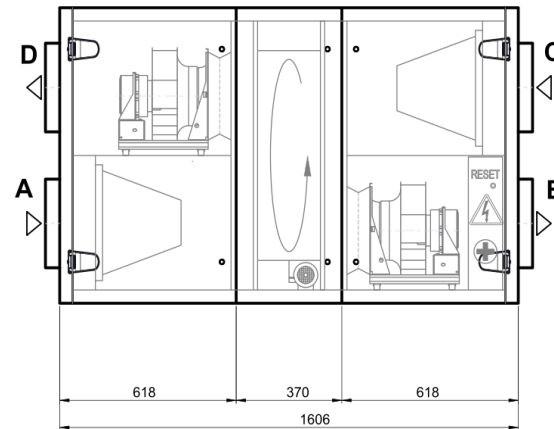
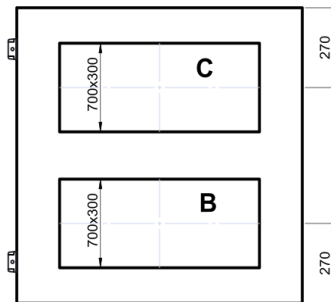
EXHAUST AIR VOLUME
Air filter

Filter correction (F), (EU 1253)		0
Type	Bag filter	
Energy efficiency class		
Air velocity class (EN13053)		V1
Filter class (EN 779:2012)		M5
Filter class (EN ISO 16890)		ePM10 60%
Dimensions bxxhxl	[mm]	792x392x500
Quantity of bags		10
Quantity of filters		1
Pressure drop (clean filter)	[Pa]	32
Pressure drop	[Pa]	91
Recommended max. pressure drop (EN 137792007)	[Pa]	150
Velocity in the AHU filter section	[m/s]	1.49

Fan EC

Type	115392	RH31C-6ID.BD.CR
Wheel diameter	[mm]	315
Air volume	[m³/h]	2153
Built-in loss	[Pa]	19
Static pressure	[Pa]	446
Speed	[1/min]	2018
Max. speed	[1/min]	2460

K-value		95
Motor efficiency class		IE4 (Super Premium)
Motor power	[kW]	0.78
Rated current(1~230V)	[A]	3.9
Electric power to motor (clean filters)		[kW] 0.37
Total fan efficiency	[%]	65.1
Static fan efficiency	[%]	61.93



A - Outdoor intake;
B - Supply air;
C - Extract indoor;
D - Exhaust air;
CB - Control box;